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PAHO/WHO EMERGENCY APPEAL FOR HEALTH SECTOR NEEDS IN GUYANA FLOODS (GUY-EHA-251/Grt.002110)

SINGLE FORM FOR HUMANITARIAN AID ACTIONS

1. *General Information*

- 1.1. Grantee: **Pan American Health Organization (PAHO)**
- 1.2. Administered by: US Agency for International Development Office of Acquisition and Assistance M/OAA/DCHA/DOFDA
- 1.3 Award number: DFD –G-00-05-00067-00
- 1.4 Effective date of Award: 03-22-2005
- 1.5 Technical Office Milena Poop. DCHA/OFDA/DRM
- 1.6 Budget Fiscal Year: 2005
- 1.6. Operating Unit: NMS: 4597
- 1.7 Obligated Amount \$ 150,000
- 1.8 Total Established Amount:\$150,000

Background

In early January 2005, Guyana began experiencing an excessive amount of rainfall. Normally, rainfall averages seven inches per month. However, by mid-January 2005, 27 inches had already fallen. This caused considerable flooding along the coastal regions, which are the most densely populated areas of Guyana. Some 70,000 persons in the Georgetown area were seriously affected by the floods. Another 100,000 along the coastal regions were similarly affected.



The government of Guyana declared Regions 3, 4 and 5 of the country disaster areas. Regions 1, 2 and 6 were also affected. Most of central Georgetown remained under water from January 17-19, until a lull in the rainfall allowed a significant amount of water to drain from higher ground in central Georgetown. On the east coast, however, water levels remained high and continued to rise as water drained from higher ground. Many more and more families were forced to evacuate their homes and take shelter in multi-story school buildings.

Problem statement and stakeholder analysis

Routine public health programs were interrupted and water and sanitation facilities generally were compromised as a result of the flooding along the Guyana's eastern shoreline in regions 3, 4 and 5. The demand placed on the health services increased due to the need for intensified disease surveillance of the vulnerable population living in the affected areas. An increase in water and excreta-related diseases was reported and outbreaks of vector-related diseases, such as dengue and malaria were serious concerns.

Findings of the assessment

There is a great demand for post emergency interventions due to the pre-existing vulnerability of the population to dengue, malaria and other vector-borne diseases and the interruption of public health programs.

Surveillance Systems:

The surveillance of disease outbreaks was a high priority in the affected areas and in the shelters. Active case detection was promoted through awareness campaigns, especially via health care staff and shelter managers. An estimated 3,400 people were

housed in some 40 shelters. Mobile Health Teams visited and treated patients in the field and used a simplified protocol for diagnosis and treatment.

Concerns about communicable diseases included water and excreta-related diseases, leptospirosis, dengue, jaundice, infections of the airways and skin rashes. The most common health reported complaints were diarrhea, skin fungal infections, conjunctivitis and acute respiratory infections. Data from mobile clinics reported a substantial increase in cases of diarrhea on a daily basis. As the number of cases of diarrhea stabilized, the incidence of skin infections increased. There were also outbreaks of scabies and other diseases.

Drinking Water:

Guyana Water Inc. (GWI) repaired the affected pumping stations and stepped up pumping of water to 24-hours-a-day instead of the usual eight. GWI has also opened their pumping station to the public to collect water and placed 80 large 400-gallon water tanks along the east-west roads to be filled by tanker trucks.

Excreta Disposal:

The disposal of human excreta was another very serious problem in the flood-affected areas, especially along the East Coast of Demerara, as all pit latrines and septic tanks were flooded. People used buckets and emptied the contents into the surrounding water, mixing sewage and excreta with the accumulated and stagnant floodwaters, increasing the risk that water-excreta related disease would become epidemic.

Health Care Delivery System:

The health care delivery system was considerably affected by the flood in regions 3 and 4. Hardest hit was the primary health care system in region 4, where 16 of the 24 health centers from the Regional Health Services experienced some level of damage and were completely out of service. In some health centers in Georgetown, stocks of essential supplies were lost (needles, bandages etc.) and refrigeration units to guarantee the cold chain in vaccination were damaged during the flooding.

School Water and Sanitation Facilities:

The water and sanitation facilities in schools were compromised in the affected areas especially along the coastline in region 4. The on-site primary raw water storage facilities and equipment (water pumps) were rendered dysfunctional and there was no drinking water is nonexistent.

Key Expected Results and Activities

Result 1: Outbreak of communicable diseases controlled through preventive action, active surveillance and early detection and treatment

PAHO's response

PAHO surveillance teams, supported by specially trained data collection officers in all the flood-hit areas, constantly updated the Ministry of Health on the situation and preventive measures. A computerized database system was developed and the GIS flood emergency system and other computer tools such as Epi-Info were utilized.

Main outcome

Updated surveillance charts, graphs and maps were produced and submitted to the Ministry of Health emergency health management team every 24 hours.

Main activities funded under project

Activities to prevent the outbreak of communicable diseases through preventive measures, active surveillance and early detection and treatment:

- Computer-aided field syndromic and environmental surveillance charts, graphs and maps assisted in tracking geographic clusters of disease syndromes and identified 'hot spots' and supported the placement of mobile medical teams to provide timely intervention to special health concerns such as the leptospirosis outbreak.
- A Coordination Center was established within two days of the flood and maintained throughout the flood crisis. PAHO also provided technical and equipment support to the CDC.
- PAHO team trained hundreds of volunteers and other field officers attached to the mobile medical clinics to detect and record data on a syndromic surveillance form, solved problems and maintained quality control. A syndromic and an environmental surveillance system were established in the shelters as they developed in numbers.
- The hospitals in the flood areas (regions 3, 4 and 5) were supplied with laboratory reagents, test kits and drugs to increase their stock of drugs for flood related illnesses. This led to an enhanced capacity for early diagnosis and prompt treatment of flood related communicable diseases.

Result 02: The affected population has better access to health care services

PAHO's response

The 17 affected health centers were rehabilitated: floors and walls; sanitary and other fixtures and furnishings; and external structures such as septic tanks and concrete reservoirs. Damaged electrical and other equipment were replaced.

Minor works were carried out on certain buildings to establish five temporary sites – three on the East coast and two in Georgetown to provide primary health care during flood.

Twenty mobile health teams were established and members trained to respond to the increased demand for primary health care in communities and shelters. Pamphlets were also developed and distributed to school teachers to assist in the early detection of flood related diseases.

Four workshops targeting 125 health care workers were held to enhance their capacity to treat flood-related illnesses and increase alertness at those facilities functioning during the flood.

Main outcomes

The 17 rehabilitated centers are fully operational and integrated into the regional health care system; records of capacity building workshops for health care workers were kept as were medical records of all work activities in both temporary and permanent health centers.

Main activities funded under this Project

Activities to strengthen the affected population's access to health care services:

- Assessment reports indicated that floods caused considerable damage to 17 health centers and contracts were awarded for repairs. Five temporary health centers were also set up in the post-flood stage in those communities where health centers were seriously damaged and repairs would take considerable time. As a result, the provision of primary health care was normalized even before all health centers were fully repaired.
- Support was provided to managing, sustaining and training mobile health teams that responded daily to the increased demand for health care in communities and shelters when normal health centers in the flood communities were not operational.

- Support was also provided to build capacity among teachers for the early detection of flood-related illnesses. This was done by developing and disseminating instruction pamphlets.
- PAHO provided technical and financial support to develop and conduct four workshops to enhance capacity in treatment of flood-related illnesses and increase outbreak alertness at (re-opened) health facilities in the post flood period. Some 125 health workers and regional health authorities - health centers, district hospitals and regional hospitals from region 3, 4, and 5 – and local government members were trained. The total population served by these decentralized health care systems is about 300,000 persons.

Result 03: Increased public awareness and community participation in preventive actions and health related relief operations, including mental health.

PAHO's response

PAHO developed a communication strategy with the Ministry of Health, its key partner. Public service announcements were developed and produced in the form of flyers and posters, published in the newspapers, and broadcast on radio and television. These dealt with water and food, disposal of dead animals and other pertinent public health concerns. An estimated 75% of the population was reached through the electronic media and more importantly, the estimated 300,000 persons affected by the flood on the East Coast of Demerara and in Georgetown were reached by television and through print messages. Workshops were also held on mental health and a draft plan was completed.

Main Outcomes

Radio and television messages were broadcast during the flood period; prototypes of print flyers and posters were distributed; and messages were printed in several newspapers during flood.

Main activities funded under this Project:

Activities to increase public awareness and stimulate community participation on preventive action and health related relief operations, including dealing with stress as a result of the disaster:

- ❑ Communication strategy developed with the Ministry of Health.
- ❑ Five public service announcements were developed and produced as flyers, posters, and published in the media – print, radio and television.
- ❑ More than 15,000 flyers for each message were produced and distributed to all affected communities by volunteer medical teams, NGOs including the Red Cross and CBOs conducting relief exercises.
- ❑ 100 copies of each poster message were produced and mounted in shelters, reaching an estimated 3,400 persons in the shelters, and at focal points/dry spots/ cooking areas, in the affected communities, targeting those who remained at home and or came to dry land for health services and or food relief.
- ❑ Public service announcements published in the three local news papers through out the period. Newspapers' combined daily circulation estimated at 75,000;
- ❑ Public service announcements were each broadcast at least twice daily on two radio stations. Radio daily reaches approximately 555,000 persons, an estimated 75 % of total population of which an estimated 300,00 were located in the flood affected areas.
- ❑ Television: Public service announcements were each broadcast at least twice daily on 13 television stations targeting the affected communities. Television combined daily coverage is estimated to reach approximately 370,000 persons (nationally) or 50 % of the total population, of which an estimated 300,000 were in the flood affected areas.

Result 04: Improved environmental health conditions, including access to safe drinking water, safe disposal of excreta and strengthened vector control program.

PAHO's response

Water quality was constantly tested in all the affected areas. Technical assistance was provided to support on-the-job training for 16 Environmental Health Officers. A workshop was held on Analytical Measurements and Surveillance of Drinking Water, targeting 50 professionals.

During the flood period, temporary storage tanks were placed within easy access of affected persons and supplied by GWI daily with treated water.

All GWI water generation centers in affected areas were reactivated and are fully operational. Water quality is being monitored constantly to ensure compliance with minimum standards.

Permanent household systems – septic tank and latrines - sanitized and reactivated, and field latrines erected during crisis have been dismantled. Water and sanitation facilities in 33 schools in the affected areas have been rehabilitated.

Main Outcomes

All areas now enjoy acceptable water quality levels. The results of periodic quality tests are available.

Septic tanks and household latrines are operational and there is no evidence of strewn excreta.

Mosquito nets are in use and regular spraying of affected areas done.

Water and sanitation facilities have been rehabilitated in 33 schools. An estimated 17,500 children from 33 schools are involved in the process and benefitted from the intervention and an estimated 6,000 households through the children, parents, teachers and community members benefitted as attitudes and behaviors are translated into practice at household level.

Main activities funded under the Project

Activities to improve access to safe drinking water, adequate sanitary facilities, solid waste collection and improve vector control program:

- Water tests and reagents were delivered to both Food & Drug Department and Environmental Health Unit from the Ministry of Health. The equipment reduced the time required to obtain the results bacterial analysis to 24 hours and improved the capacity to perform the analyses.
- A consultant was hired to support on-the-job training in water monitoring among the 16 Environmental Health Offices. A Workshop on Analytical Measurements to Control and the Surveillance of Drinking Water was held with the participation of 25 professionals.
- Rehabilitation to physical infrastructure includes:

1. the refurbishment of water reservoirs, the construction/installation of new reservoirs, and replacement of damaged reservoirs;
2. refurbishment of sanitary and plumbing facilities;
3. installation of additional water storage tanks, and water fountains/drinking trough and system for the manual treatment of water for drinking with chlorine.

Sustainability

The Ministry of Health has established a National Health Surveillance Unit to enhance the national surveillance system to respond rapidly and effectively to outbreaks or disasters.

At the school level, a cadre of teachers at each school has been suitably trained and is responsible for maintaining water, environment and sanitation facilities and health promotion training activities.



Aerial View of Flood



Mobile Health Team



Water monitoring



Repairs underway in health centers



Supported provided a shelters



Poster display



Community Health Educators